ABSTRACT

A radio-wave arrival-direction apparatus calculates a correlation matrix of received signals by correlation calculation between antenna elements, and calculates a noise spatial eigenmatrix, of which each row or column is an eigenvector

5 belonging to a noise eigen-space, by eigenvalue factorization of the correlation matrix. The apparatus also factorizes a matrix including a product of the noise spatial eigenmatrix and a conjugated and transposed matrix of it to an upper or lower triangular matrix, using cholesky factorization. The apparatus calculates an angle evaluation value in a predetermined angle range of an arrival-angle evaluation

10 function using the derived upper or lower triangular matrix, and determines an arrival angle based on the calculation result. A calculation amount in a variable angle range can be thus reduced without causing accuracy degradation of arrival direction, in an algorism requiring an angle sweep for arrival angle estimation of MUSIC method or the like.